**Alcoa Inc.**
**Wheel Products International**

ALCOA

September 25, 2000

Kenneth Weinstein
Associate Administrator for Assurance
National Highway Traffic Safety Administration
400 Seventh St., S.W.
Washington, D.C. 20590

OOE-057 (01)

**Ref: VOLUNTARY RECALL NOTIFICATION**

Dear Mr. Weinstein,

Alcoa Wheel and Forged Products is notifying NHTSA that we are initiating a voluntary recall for Alcoa part number 167011 wheel. This is a forged aluminum wheel, 16x7J, LTS Style, 8 on 6.5" bolt circle made by Alcoa for the after-market consumer and primarily used on ¾- and one-ton pick-ups. Alcoa has observed a higher incidence of part number 167011 being returned under our five year warranty with cracks.

With continued use, a wheel with a crack will eventually fail as the crack propagates. Failure mode can include separation of the wheel from the vehicle if the crack is allowed to propagate around the entire circumference of wheel. Our evaluation of returned wheels indicates that a consumer can inspect their wheels and visually confirm the presence of a crack. Wheels with cracks should be removed from service.

We have available an alternate style replacement wheel for a quick exchange with a consumer. In addition, we expect to complete a modified design for the LTS Style wheel with a higher load rating to be compatible with current OEM specifications for axle load rates. This replacement wheel is expected to be available for shipment within 180 days.

If you have any questions or comments, please contact me at (216) 641-6315.

Sincerely,

Richard L. Corliss
Quality Manager
Alcoa Wheel and Forged Products

# DEFECT AND NONCOMPLIANCE INFORMATION REPORT

*Pursuant to 49 CFR §573.5*

ODE-057 (02)

**1. The manufacturer of the forged aluminum wheel is:**

Alcoa Wheel Products International
Alcoa Wheel and Forged Products Division
Alcoa Inc.
Cleveland, Ohio

**2. The item that potentially contains the defect is:**

Forged aluminum light truck wheel, size 16x7J, LTS Style, 8 on 6.5" bolt circle, Alcoa part number 167011, manufactured and sold from 1993 to 2000. These wheels were sold to the after-market consumer for use on ¾- and one-ton rated vehicles, primarily pick-up trucks, and can be used on ½-ton pick up trucks.

**3. The total number of wheels containing the defect is:**

25,054 wheels of part number 167011 have been sold.

**4. The percentage of the wheels estimated to actually contain the defect is:**

Issues arise only when fitted on ¾- and one-ton vehicles. However, we are arranging to recall all wheels.

**5. The following is a description of the defect:**

A crack can development in the wheel from hand hole to hand hole. This can result in additional cracks and potential failure over time if not removed from service. Failure can include separation of the wheel from the vehicle if the crack is allowed to propagate around the entire circumference of wheel.

**6. The following is a chronology of all principal events that were the basis for the determination that the defect related to motor vehicle safety:**

Alcoa has observed a higher incidence of part number 167011 being returned under our five year warranty due to the consumer observing a crack. Historical data indicates warranty returns of 1.11% (versus .01% for similar part numbers).

In mid-March 2000, Alcoa received a report of an apparent wheel separation on a 1997 Dodge 2500 4X4 Club Cab Truck. This incident involved no personal injuries or property damage. An investigation determined that overloading of the wheel was

suspected. All four wheels on the vehicle were replaced. Alcoa's inspection of the wheels determined that mechanical properties were within specification.

In early June 2000, Alcoa received a report of a single car accident involving a ¾-ton 1998 Dodge pickup, resulting in no personal injuries, and allegedly due to wheel separation. An investigation determined that the customer had reported a crack in one of the wheels and had been advised to replace it immediately, but failed to do so for a period of approximately 2 months prior to the incident. In addition, no police report was filed in the case and driver impairment and vehicle overloading were suspected. The separated wheel has not been recovered. Alcoa's inspection of the remaining wheels on the vehicle determined that mechanical properties were within specification.

In mid-August 2000, Alcoa received a call from an owner of a 1997 Dodge ¾-ton 4X4 claiming a wheel separation caused minor damage to his truck ($2,500). All four wheels on the vehicle were replaced. The separated wheel has not been recovered. Alcoa's inspection of the remaining wheels on the vehicle determined that mechanical properties were within specification.

The above incidents, primarily the last one (because of no apparent warning to the driver and no apparent overloading of the vehicle), caused Alcoa to launch a detailed review of this wheel and its usage in the field. After evaluating the vehicle OEM specification for the class of vehicles that this wheel can be used on, we discovered that, following the wheel's design and release in 1993, the more recent OEM axle load ratings can exceed the design load rating for this wheel. This implies that an overload condition can be applied to this wheel on some vehicles on which it can be fitted. An overload condition could result in the generation of a crack in the wheel. A wheel with a crack could result in a failure over time when left in continued service. Failure mode can include separation of the wheel from the vehicle if the crack is allowed to propagate around the entire circumference of wheel.

Alcoa then began to conduct a series of fatigue and strength tests on this wheel, including current and past production. On September 18, 2000, Alcoa metallurgists, designers, technicians and managers met to discuss the results of these tests, as well as warranty return data, incident reports and OEM load rating specifications relative to this wheel. This group determined on that date to immediately stop shipment of this wheel and to voluntarily initiate a recall. This decision was undertaken primarily because of the higher OEM load rating than what the wheel was designed for, variability in test results, and our suspicion that a driver may not be adequately alerted to a crack in the wheel unless visually inspected.

Our evaluation of returned wheels indicates that a consumer can inspect their wheels and visually confirm the presence of a crack. Wheels with cracks should be removed from service upon detection.

00E-057 (04)

**7. The following is a description of the manufacturer's program for remedying the defect:**

We have available now a different style replacement wheel for a quick exchange with a consumer. In addition, Alcoa is in the process of modifying the LTS Style wheel design and qualifying it to a higher load rating (3415lbs instead of 3040lbs). This replacement wheel is expected to be available for shipment within 180 days.

Alcoa is already in the process of removing current inventory of the 1993 design from the Distributors that purchase from us and we will seek to retrieve any such inventory from dealers as well. We will also attempt to directly notify any consumer who has purchased this wheel from the distributor/dealer network. In addition, we will advertise in the appropriate trade magazines and trade shows to alert end-user consumers that we may not be able to otherwise contact in direct mailing efforts. Other avenues, such as use of the Internet and point of sale materials, are being considered as well. (Note: This is an aftermarket wheel. Therefore, no OEM vehicle registration data is available for purchasers of this wheel.) The notification process to end users is expected to begin on October 21 utilizing information obtained from the dealers and distributors.

We will inform consumers to visually inspect their wheels for a potential crack. If a cracked wheel is observed, they will be instructed to notify our Wheel Service Center for an immediate, no-cost exchange. Any consumer request to replace wheels, whether they observe a crack or not, will be honored by Alcoa.

The contact information for wheel replacement or consumer questions is as follows:
Alcoa Wheel Service Center
106 North 1st Avenue
Clarion, PA 16214
Phone 1-888-279-3055

The contact information for NHTSA is as follows:

Richard Corliss
Quality Manager
Alcoa Wheel and Forged Products
1600 Harvard Avenue
Cleveland, Ohio 44105
Phone 1-216-641-6315